

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**



**AIR FORCE INSTRUCTION 11-  
2SAILPLANE, VOLUME 3**

**30 APRIL 2015**

***Flying Operations***

**SAILPLANE AIRCREW OPERATIONS**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

---

**ACCESSIBILITY:** Publications and forms are available for downloading or ordering on the e-Publishing website at [www.e-Publishing.af.mil](http://www.e-Publishing.af.mil).

**RELEASABILITY:** There are no releasability restrictions on this publication.

---

OPR: AETC/A3V

Certified by: AF/A3O  
(Brig Gen Giovanni K. Tuck)

Pages: 21

Supersedes: AFI11-2SAILPLANEV3,  
2 February 2011

---

This instruction implements AFPD 11-2, *Aircraft Rules and Procedures*, and AFI 11-202, Volume 3, *General Flight Rules*. Along with major command (MAJCOM) and local procedures, this instruction prescribes standard procedures to be used by all pilots operating Air Force sailplanes. This instruction does not apply to the Air National Guard. With the exception of the associate instructor pilot program, this instruction does not apply to the Air Force Reserve Command. Requests for waivers must be submitted through the chain of command to the appropriate Tier waiver approval authority, and filed in accordance with AFI 33-360. According to AFI 11-200, major commands (MAJCOM) will coordinate proposed MAJCOM- level supplements to this volume through AETC/A3V to AFFSA/XOF prior to publication. (T-1). Field units below MAJCOM level will coordinate their supplements through their parent MAJCOM OPR prior to publication. (T-1). Submit suggested improvements to this instruction on AF Form 847, *Recommendation for Change of Publication*, to the parent MAJCOM through standardization/evaluation channels to AETC/A3V. USAF/A3 is approval authority for changes or revisions to this instruction. This publication requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by 10 U.S.C. 8013, Secretary of the Air Force; AETCI 36-2205, Volume 1, Formal Aircrew Training Administration and Management; AETCI 36-2223, Flying Training Student Information Management; E.O. 9397, Numbering System for Federal Accounts Relating to Individual Persons, as amended; Title 37 U.S.C. 301a, Incentive Pay: Aviation Career; Public Law 92-204, Appropriations Act for 1973; Section 715 Public Law 93-570, Appropriations Act for 1974; and DoD Instruction 7730.57, Aviation Incentive Pays and Continuation Bonus Program. The applicable System of Records

Notice (SORN) F036 AF AETC B, Graduate Training Integration Management System (GTIMS) and SORN F011 AF XO A, Aviation Resource Management System (ARMS), are available at: <http://dpcl.o.defense.gov/privacy/SORNs/SORNs.html>. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS). (T-1). Attachment 1 contains a glossary of the references and supporting information used in this publication. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

### ***SUMMARY OF CHANGES***

This revision implements Tier waiver authorities IAW AFI 33-360 and contains administrative updates for the OPR change and references.

<b>Chapter 1—GENERAL INFORMATION</b>	<b>4</b>
1.1. Scope. ....	4
1.2. Pilot's Responsibility. ....	4
1.3. Deviations. ....	4
1.4. References. ....	4
1.5. Recommended Changes and Waivers. ....	4
1.6. Crew Requirements. ....	4
1.7. Maximum Flight Duty Period Flight Time. ....	4
1.8. Clothing Requirements. ....	4
1.9. Seatbelts and Shoulder Harnesses. ....	5
1.10. Oxygen Requirements. ....	5
1.11. Cargo Restrictions. ....	5
1.12. Interfly. ....	5
1.13. Aerial Events. ....	5
<b>Chapter 2—MISSION PLANNING</b>	<b>6</b>
2.1. Responsibilities. ....	6
2.2. General Procedures. ....	6
2.3. Briefings and Debriefings. ....	6
2.4. Maps and Charts. ....	6
2.5. Required Documents. ....	6
2.6. Unit-Developed Checklists and Pilot Aids: ....	7

<b>Chapter 3—NORMAL OPERATING PROCEDURES</b>	<b>8</b>
3.1. Preflight: .....	8
3.2. Ground Operations: .....	8
3.3. Takeoff and Landing: .....	10
3.4. Traffic Patterns: .....	11
3.5. Aerobatic Procedures. ....	11
3.6. Minimum Altitudes. ....	11
3.7. Acceleration Monitoring Unit (AMU) Procedures (TG-10C Only). ....	11
3.8. Weather Requirements: .....	12
3.9. Instructor Pilot (IP)-required Maneuvers. ....	12
3.10. Navigation Procedures: .....	12
3.11. Night Procedures. ....	12
3.12. Thermalling Procedures. ....	12
3.13. Passenger Procedures: .....	13
3.14. Simulated Emergency Procedures: .....	13
3.15. Nontowered Airfield (NTA) Operations: .....	13
3.16. Functional Check Flights (FCF): .....	13
3.17. Transfer of Aircraft Control. ....	14
3.18. G-Awareness Exercise. ....	14
3.19. Post Flight. ....	14
<b>Chapter 4—OPERATING RESTRICTIONS</b>	<b>15</b>
4.1. Sailplane Equipment Exceptions. ....	15
4.2. Waivers. ....	15
Table 4.1. Sailplane Equipment Exceptions. ....	15
<b>Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION</b>	<b>16</b>
<b>Attachment 2—MISSION BRIEFING GUIDE</b>	<b>19</b>
<b>Attachment 3—PASSENGER BRIEFING GUIDE</b>	<b>21</b>

## Chapter 1

### GENERAL INFORMATION

**1.1. Scope.** This instruction outlines the procedures applicable to the safe operation of sailplanes, including the TG-10, TG-15, and any other sailplane acquired to conduct AF-approved sailplane flying programs. Along with the complementary references cited, this instruction prescribes standard operational procedures to be used by all pilots operating sailplanes. Units will provide local operating procedures in a supplement to this publication.

**1.2. Pilot's Responsibility.** In conjunction with other governing directives, this instruction prescribes sailplane procedures under most circumstances, but is not to be used as a substitute for sound judgment or common sense. The pilot in command (PIC) is ultimately responsible for the safe and effective operation of the aircraft and will ensure all occupants of the aircraft comply with this directive.

**1.3. Deviations.** Do not deviate from the procedures and guidance in this publication except when necessary to preserve safety or protect lives. In that case, the PIC has ultimate authority and responsibility for the course of action to be taken and will take the appropriate action to safely recover the aircraft. Report all deviations without waiver through channels to the MAJCOM OPR. (T-2).

**1.4. References.** The primary references for sailplane operations are this instruction and technical orders (TO) 1G-10(T)-1, *Flight Manual--USAF Series, TG-10B/C Sailplanes*, or TO 1G-15(T)-1, *Flight Manual--USAF Series TG-15A/B Aircraft*.

1.4.1. For sailplane assembly and disassembly, use the appropriate flight manual or the current version of the applicable sailplane assembly and disassembly checklist published by AETC/A3V (available at: <https://www-r.aetc.af.mil/do/dof/download.asp>).

1.4.2. Training units may develop phase manuals from the procedures contained in these documents. Phase manuals may be used to augment initial and mission qualification training. They may expand these basic procedures, but will not be less restrictive. (T-2). Only maneuvers described in these references will be flown.

**1.5. Recommended Changes and Waivers.** Except where noted herein, the MAJCOM A3 is the waiver authority for this instruction. Submit waiver requests in message or memorandum format. (T-2).

**1.6. Crew Requirements.** The minimum crew for all sailplanes is one pilot qualified IAW AFI 11-2SAILPLANE, Volume 1, *Sailplane Aircrew Training*.

**1.7. Maximum Flight Duty Period Flight Time.** AFI 11-202, Volume 3, lists maximum flight duty periods.

1.7.1. Units will consider sailplanes as "trainer" type aircraft.

1.7.2. Use of additional crewmembers to extend the flight duty period (augmented crew) is not authorized.

**1.8. Clothing Requirements.** All aircrew members will wear flight suits and flight boots, or other MAJCOM- or installation-approved uniforms while operating the aircraft. Passengers may wear any uniform combination or appropriate civilian attire.

1.8.1. Aircrew members will carry appropriate seasonal flight clothing.

1.8.2. Aircrew members will remove rings and scarves before performing aircrew duties.

1.8.3. Parachutes must be worn for all spin, aerobatic, cross-country, and planned wave flights.

**1.9. Seatbelts and Shoulder Harnesses.** All occupants will wear seatbelt and shoulder harnesses at all times while operating the aircraft.

**1.10. Oxygen Requirements.** The PIC will ensure oxygen is used IAW AFI 11-202, Volume 3, and the aircraft flight manual. Units will ensure only certified personnel service oxygen equipment. (T-2). When oxygen is required, the minimum oxygen pressure is 50 pounds per square inch. Pilots on oxygen will perform a pressure, regulator, indicator, connections, and emergency (PRICE) check every 30 minutes.

**1.11. Cargo Restrictions.** None.

**1.12. Interfly.** Interfly is defined in AFI 11-401, *Aviation Management*. Interfly requires approval of both operations group commanders and notification of the appropriate numbered Air Force (NAF) and MAJCOM standardization and evaluation office. (T-2).

**1.13. Aerial Events.** Units will conduct aerial events IAW AFI 11-209, *Aerial Event Policy and Procedures*, and AFI 11-246, Volume 7, *Air Force Aircraft Demonstrations (Sailplanes)*. (T-2).

## Chapter 2

### MISSION PLANNING

**2.1. Responsibilities.** The individual pilots and the operations functions of the organizations jointly share responsibility of mission planning. The PIC is ultimately responsible for mission planning.

**2.2. General Procedures.** The pilots will:

2.2.1. Accomplish sufficient flight planning to ensure safe mission accomplishment. AFI 11-202, Volume 3, and this instruction specify minimum requirements. (T-2).

2.2.2. Compute weight and balance for each flight. MAJCOM-approved tabulated data may be used when available. (T-2).

2.2.3. Ensure all passengers are manifested IAW AFI 11-202, Volume 3. (T-2).

**2.3. Briefings and Debriefings.** The PIC is responsible for presenting a logical briefing that will promote safe, effective mission accomplishment. All pilots will attend the flight briefing and debriefing. (T-2). The PIC will structure the flight briefing to accommodate the capabilities of each pilot. (T-2). On subsequent flights during the same day with the same crew, the PIC must brief only those items that have changed from the previous flights. (T-2). Passengers will be briefed on their specific responsibilities related to safe mission accomplishment. (T-2).

**2.3.1. Briefing Guides:**

2.3.1.1. All missions will be briefed and debriefed, using the applicable briefing guide as a reference ([Attachment 2](#) and [Attachment 3](#)). (T-2). **Note:** Briefing guides are reference lists of items that may apply to particular missions.

2.3.1.2. Items listed may be briefed in any sequence. Those items covered by phase manuals or written squadron standards, and understood by all participants may be briefed as "standard." Each guide may be expanded as necessary to cover other important items of the flight. Brief only those items applicable to the particular mission and in sufficient detail to prevent any misunderstanding between crewmembers.

**2.3.2. Alternate Missions:**

2.3.2.1. Pilots will brief an alternate mission profile for each flight. (T-2). Solo students will not deviate from the briefed primary or alternate mission profile. **Exception:** If the primary mission is a pattern tow, an alternate mission profile is not required.

2.3.2.2. The alternate mission will be less complex than the primary mission. Missions or events not briefed will not be flown. Mission elements or events may be briefed airborne if it is practical to do so and flight safety is not compromised.

**2.4. Maps and Charts.** When flying outside the local area, appropriate charts covering the route of flight must be on board the aircraft. (T-2).

**2.5. Required Documents.** The following documents must be on board for flight (T-2):

2.5.1. Aircraft weight and balance report.

2.5.2. Airworthiness certificate.

2.5.3. Aircraft registration.

2.5.4. AFTO Form 781F, *Aerospace Vehicle Flight Report and Maintenance Document*.

2.5.5. TO 1G-10(T)-1CL-1, *Pilots Checklist, USAF Series TG-10B/C Sailplanes*, or TO 1G-15(T)-1CL-1, *Pilots' Abbreviated Flight Crew Checklist, USAF Series TG-15A/B*.

2.5.6. A unit-developed pilot aid according to [paragraph 2.6.2](#) of this instruction.

## **2.6. Unit-Developed Checklists and Pilot Aids:**

2.6.1. When aircrew use unit-developed checklists in lieu of flight manual checklists (according to AFI 11-215, *USAF Flight Manuals Program (FMP)*), the checklists must contain, as a minimum, all items (verbatim and in order) listed in the applicable flight manual checklist. (T-2). Crewmembers will still carry a current flight manual checklist ([paragraph 2.5.5](#)) and have it immediately available on all flights. (T-2).

2.6.2. Unit-developed pilot aids will include, as a minimum, the following items (T-2):

2.6.2.1. Briefing guides.

2.6.2.2. Local radio frequencies.

2.6.2.3. Appropriate airfield diagrams, including aircraft arresting systems.

2.6.2.4. Emergency information, including impoundment procedures, emergency action checklists, lost communications procedures, and diversion information.

2.6.2.5. Cross-country procedures, including command and control, aircraft security, and aircraft servicing.

2.6.2.6. Local training areas.

2.6.2.7. Stereo flight plans.

2.6.2.8. Other information deemed necessary by the local unit.

## Chapter 3

### NORMAL OPERATING PROCEDURES

#### 3.1. Preflight:

3.1.1. **Required Equipment.** Chapter 4 specifies the minimum equipment required for flight.

3.1.2. **Aircraft Systems.** Students will not fly solo in aircraft requiring an operational check. With operations supervisor approval, pilots may perform operational checks during dual-student training sorties if the checks do not interfere with training objectives.

3.1.3. **Ballast Operations.** Pilots will:

3.1.3.1. Only load ballast according to the aircraft flight manual.

3.1.3.2. Not use parachutes for ballast unless the personnel with the parachute have been trained according to AFI 11-301, Volume 1, *Aircrew Flight Equipment (AFE) Program*.

3.1.4. **Foreign Object Damage (FOD).** To reduce the risk of FOD and personal injury, personnel will ensure loose items are secured in the cockpit at all times.

3.1.5. **Assembly and Disassembly:**

3.1.5.1. Assembly and disassembly of aircraft will only be performed by trained crewmembers.

3.1.5.2. After a sailplane is reassembled, a certified rated officer or civilian coach not involved in the aircraft assembly will sign off the "Corrected by" block in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*. Qualified maintenance personnel must then inspect the sailplane prior to flight. (**Exception:** When maintenance personnel are not available, an IP qualified in the aircraft's assembly/disassembly may inspect the aircraft.) The individual who performed the inspection will sign off the red X and the "Inspected by" block in the AFTO Form 781A.

3.1.6. **Preflight Inspections:**

3.1.6.1. The PIC is responsible for ensuring the AFTO 781-series forms are reviewed prior to flight.

3.1.6.2. Pilots or maintenance personnel discovering a nonairworthy condition will immediately install a red tag on the aircraft control stick and ensure the aircraft AFTO Form 781H, *Aerospace Vehicle Flight Status and Maintenance*, is updated to reflect a red X status. Units will make red tags available in the AFTO 781-series forms. Only authorized maintenance personnel will remove the tag when repairs are complete and the aircraft is released for flight.

#### 3.2. Ground Operations:

3.2.1. **Ground Handling:**

3.2.1.1. Ground handlers will maintain 10 feet of nose-to-tail separation between sailplanes. (**Exception:** Less than 10 feet of nose-to-tail separation between sailplanes is authorized when sailplanes are staged for a cross-country launch grid. If sailplanes are



staged for a cross-country launch grid, ground handlers will remove the tail wheel dollies.)

3.2.1.2. Unless a sailplane is in the takeoff position, airbrakes will be open or unlocked and the upwind wing will be manned.

3.2.1.3. Do not stand in front of any part of a sailplane hooked up for launch.

3.2.1.4. Do not ground handle or move aircraft so as to overlap wings and/or fuselages unless hanging the aircraft ([paragraph 3.2.3](#)).

3.2.1.5. Personnel will ensure draglines used for towing are at least as long as one half the wingspan of the sailplane.

3.2.1.6. Ideally, use three or more people (two minimum) to ground handle sailplanes. Normally position one person on the upwind wing tip, and one person either at the opposite wing root or at the aircraft tail. When three people are available, position the third person in the cockpit, at the other wing root, or at the aircraft tail.

3.2.1.7. Close and secure the canopy when the cockpit is not occupied, unless the canopy is being guarded.

3.2.1.8. Never leave a sailplane unattended unless it is secured.

3.2.1.9. Tie down sailplanes IAW local directives and the flight manual, normally facing into the wind. When tying down any sailplane overnight, ground handlers will attach both wings and the tail to established tiedown equipment. For the TG-15, use wing cuffs and a main wheel strap (if a main wheel ground tiedown is available). To prevent damage to the TG-15 fuselage, use a tail dolly or additional padding to secure the tail.

**3.2.2. High Wind Procedures.** Units will ensure there are adequate personnel on the flight line to safely ground handle all sailplanes during high winds (over 25 knots). Ground handlers will increase nose to tail separation (minimum one half the wingspan) of aircraft on the flight line during high wind conditions. If practical, turn the aircraft into the wind, place a crewmember in the cockpit, and ensure the airbrakes are open to prevent aircraft damage.

3.2.2.1. When winds exceed 25 knots, a minimum of three people are required to move each sailplane. A minimum of two people are required while the aircraft is static.

3.2.2.2. When winds exceed 30 knots, all sailplanes will remain tied down or be hangared. Units will use good judgment and use as many people as possible (a minimum of four) to move sailplanes. After landing, aircrews should remain in the cockpits with the radio on, the airbrakes out, and the stick aft until assistance arrives. If available, ground handlers may place weights in front cockpits, holding the stick aft while towing the sailplane behind a vehicle.

3.2.2.3. When temporarily tying down sailplanes due to inclement weather, as a minimum, ground handlers will:

3.2.2.3.1. Attach mooring rings to established tie down equipment (TG-10).

3.2.2.3.2. Remove the wingtips, route the tie down rope through the wingtip pin, and reconnect the wingtip to the sailplane (TG-15).

**3.2.3. Hangaring:**

3.2.3.1. Units will use a minimum of two people with one certified person to hangar sailplanes.

3.2.3.2. Ground handlers will install main wheel dollies by pushing the sailplane onto the dolly with the wings level and installing the stop bar.

3.2.3.3. After hangaring, airbrakes will remain unlocked and canopies will be closed and locked (covered as necessary).

3.2.3.4. Units may publish local sailplane hangaring procedures.

3.2.4. **Additional Flight Line Duties.** Units will define additional flight line duties to support sailplane operations.

### 3.3. Takeoff and Landing:

#### 3.3.1. Minimum Runway:

3.3.1.1. The minimum landing surface is determined by the spacing requirements in paragraph 3.3.4.

3.3.1.2. Units will publish procedures to limit operations when takeoff runways or landing surfaces are other than dry, or when a hard surface landing is required.

3.3.1.3. Units will publish approval procedures for flights to or from other than established landing surfaces.

3.3.2. **Minimum Aerotow Rate of Climb.** Units will publish procedures to limit operations when density altitude exceeds 10,000 feet. All tow operations will cease when a minimum altitude of 200 feet above ground level (AGL) cannot be achieved by 1 nautical mile (NM) from the departure end of the runway.

#### 3.3.3. Wind Limitations:

3.3.3.1. Pilots will use the full gust factor and maximum crosswind angle of variable winds to determine if winds exceed aircraft or pilot limits for takeoff. If the crosswind component (including gusts) exceeds flight manual limits, pilots will consider changing the landing direction and land into the wind, if possible.

3.3.3.2. The maximum crosswind limit for takeoff and landing are defined in the flight manual.

3.3.3.3. The maximum crosswind limit for an initial solo's takeoff and landing is 10 knots.

#### 3.3.4. Minimum Spacing. Pilots will:

3.3.4.1. Comply with the sailplane reduced same runway minimums defined in MAJCOM supplements to AFI 13-204, Volume 3, *Airfield Operations Procedures and Programs*.

3.3.4.2. Land the aircraft so as to maintain at least one full wingspan of lateral separation from sailplanes or obstacles during landing and rollout.

3.3.4.3. Stop the aircraft no less than 200 feet behind other aircraft, obstacle, or personnel. **Note:** A tow rope is not considered an obstacle, but pilots will avoid rolling over the assembly hardware.

3.3.4.4. For landings on the same runway behind other than sailplanes, not plan to cross the runway threshold until preceding aircraft are clear of the runway.

### 3.3.5. Sailplane Launch:

3.3.5.1. The only authorized method of sailplane launch is by a tow rope attached to a tow airplane (aerotow).

3.3.5.2. Units will determine the minimum tow rope length. Prior to tow rope hookup, the pilot will inspect the rope condition and replace if necessary.

3.3.5.3. Unless local requirements are different, pilots will use visual signals to:

3.3.5.3.1. Indicate to the tow to take the slack out of the tow rope by leveling the wings.

3.3.5.3.2. Indicate to the tow when ready for takeoff by wagging the rudder. The tow should respond with a rudder wag and commence the takeoff.

### 3.4. Traffic Patterns:

3.4.1. The maximum traffic pattern bank angle is 45 degrees.

3.4.2. The minimum safety altitude for a gate finish is 500 feet AGL for a 1 NM radius gate or 800 feet AGL for a 2 NM radius gate.

3.4.3. Pilots will fly traffic patterns to roll out on final above 200 feet AGL minimum.

**3.5. Aerobatic Procedures. Pilots will** perform aerobatics in approved airspace according to AFI 11-202, Volume 3.

### 3.6. Minimum Altitudes. Pilots will:

3.6.1. Initiate spins above 3,500 feet AGL and recover from spins no lower than 3,000 feet AGL. **Exception:** Initiate competition spins so as to recover above 2,000 feet AGL.

3.6.2. Recover from spin prevents above 2,000 feet AGL.

3.6.3. Complete spiral dive, nose-high stall, turning stall, and landing attitude stall recoveries above 1,500 feet AGL.

3.6.4. Complete all aerobatics above 1,200 feet AGL (or higher to maintain final glide distance).

3.6.5. Complete slow flight above 1,000 feet AGL provided the stall indication airspeed was determined above 1,500 feet AGL.

3.6.6. Not use thermalling below 500 feet AGL or once established in a traffic pattern.

3.6.7. Not perform intentional slack lines or box-the-wash below 1,000 feet AGL.

3.6.8. Remain above 500 feet AGL during ridge soaring or flight over mountain ranges.

3.6.9. Complete all slips above 100 feet AGL.

**3.7. Acceleration Monitoring Unit (AMU) Procedures (TG-10C Only).** If the AMU fails in flight or indicates abnormal operation, terminate aerobatic maneuvering. Document all AMU malfunctions in the AFTO Form 781A.

### 3.8. Weather Requirements:

- 3.8.1. If lightning or thunderstorms are reported within 10 NM of the area of operation, units will ensure the aircraft is not exposed to hail, lightning, wind shear, or microbursts. Units will terminate operations with lightning within 5 NM.
- 3.8.2. Units will publish procedures to limit operations when wind chill or outside air temperatures (low or high) could affect safety.
- 3.8.3. All sailplane operations will remain in visual meteorological conditions (VMC) as defined in AFI 11-202, Volume 3.
- 3.8.4. Flight into areas of known or forecast icing conditions is prohibited.
- 3.8.5. Flight in areas of forecast severe turbulence requires the OG commander approval. If severe turbulence is reported, cease operations in the affected area.
- 3.8.6. Pilots will report severe sink conditions (greater than 10 knots at normal glide speeds) to unit supervisors or air traffic control (ATC).

### 3.9. Instructor Pilot (IP)-required Maneuvers. Pilots will not accomplish the following maneuvers unless an instructor pilot is at a set of controls:

- 3.9.1. Intentional slack line. **Note:** Intentional inside slack line demonstrations require a certified pilot instructor training IP.
- 3.9.2. Spin. **Note:** Spins require a certified spin IP unless the pilot is certified under an approved aerobatic training program.
- 3.9.3. Intentional low pattern.
- 3.9.4. Simulated rope break.

### 3.10. Navigation Procedures:

- 3.10.1. Pilots will maintain final glide distance to a suitable landing site.
- 3.10.2. During cross-country flight, pilots will contact the ground crew or unit supervisor every 30 minutes or when deviating from the planned route of flight. **Exception:** Contact with the ground crew is not required when limited by competition rules.
- 3.10.3. Pilots may use the global positioning system (GPS) and moving map displays in the ILEC Instruments<sup>(TM)</sup> SN-10B as a mission enhancement system IAW AFI 11-202, Volume 3.
- 3.10.4. Pilots may use the Hewlett Packard<sup>(TM)</sup> iPAQ 310 Travel Companion as a situational awareness tool IAW AFI 11-202, Volume 3. It will not be used as the primary means of navigation. Units will maintain configuration control of the installed software. The NAF will approve all software version updates and any airspace database sources before in-flight use.

### 3.11. Night Procedures. Sailplanes will not fly prior to official sunrise and must be in the traffic pattern no later than 5 minutes prior to official sunset. Sailplanes must land no later than official sunset.

### 3.12. Thermalling Procedures. When entering a thermal:

3.12.1. Turn in the direction of other aircraft already established in the thermal. Units will establish local thermalling procedures. **Note:** Turn direction may be mandated by competition rules.

3.12.2. Do not interfere with or obstruct other sailplanes already established in the thermal.

### **3.13. Passenger Procedures:**

3.13.1. The PIC will brief passengers according to the mission briefing guide at Attachment 2 and the passenger briefing guide at [Attachment 3](#).

3.13.2. Passengers will normally occupy the front seat unless center of gravity calculations require the passenger to occupy the rear seat.

3.13.3. AFI 11-401 lists passenger approval authorities and restrictions. In addition, passengers will not control the aircraft during critical phases of flight (takeoff, landing, and traffic patterns) or below 1,000 feet AGL.

### **3.14. Simulated Emergency Procedures:**

3.14.1. The IP will brief all airborne simulated emergencies before flight.

3.14.2. Pilots will not practice compound or multiple simulated emergencies in flight, or initiate simulated emergencies below 300 feet AGL.

### **3.15. Nontowered Airfield (NTA) Operations:**

3.15.1. With the OG commander's approval, aircrews may conduct operations at nontowered, public-use airfields as follows:

3.15.1.1. Aircrews will monitor the published common traffic advisory frequency and make all radio calls and position reports recommended in the Aeronautical Information Manual (AIM).

3.15.1.2. Pilots may fly rectangular patterns (as depicted in AIM), and emergency procedures patterns. **Exception:** Pilots may fly overhead and demonstration patterns during sanctioned competition and training when approved by the airfield manager.

3.15.1.3. Aircrews will immediately notify the operations supervisor if any hazardous conditions exist at an NTA that would prevent normal operations.

3.15.2. Each OG commander will require and approve a training program to prepare aircrews to operate in the NTA environment. (T-2). As a minimum, the program will include a discussion of all applicable codes of federal regulations, advisory circulars, and AIM references on NTA operations. Training will emphasize standard civilian radio phraseology.

### **3.16. Functional Check Flights (FCF):**

3.16.1. Do not conduct an FCF with other type missions except FCF continuation training (CT) or FCF upgrade training flights. All FCF requirements will be accomplished by an FCF pilot or a pilot in training status with an FCF IP on board.

3.16.2. The OG commander may waive a complete FCF and authorize an FCF to check only systems disturbed by maintenance, inspection, or modification.

3.16.3. Maneuvers not IAW TO 1G-10(T)-6CF-1, *Acceptance and Functional Check Flight Procedures Manual, USAF Series TG-10B/C Aircraft*, or TO 1G-15(T)-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual, USAF Series TG-15A/B Aircraft*, will not be flown or practiced on FCF missions.

**3.17. Transfer of Aircraft Control.** Pilots must know who has control of the aircraft at all times.

3.17.1. The pilot assuming control of the aircraft will state, "I have the aircraft," and will shake the stick. **Exception:** During high-speed dive recoveries, high-speed aerobatic maneuvers, or intentional developed spin recoveries, the pilot assuming control will state, "I have the aircraft," but will not shake the stick.

3.17.2. The pilot relinquishing control will state, "You have the aircraft." Once assuming control of the aircraft, maintain control until relinquishing it as stated above.

**3.18. G-Awareness Exercise.** The intent of the G-awareness exercise is to prepare the pilot for precise high-G maneuvering and evaluate G-meter readings between cockpits (if applicable).

3.18.1. Pilots will accomplish a G-awareness exercise on every sortie where they plan or are likely to maneuver above four Gs. **Exception:** A G-awareness exercise is optional on subsequent sorties with the same crew on the same day.

3.18.2. A G-awareness exercise will consist of a smooth pull to at least four Gs.

3.18.3. On dual sorties, pilots will crosscheck G-meter indications between cockpits. If a discrepancy exists between the front and rear cockpit G meters, pilots will continue the sortie using the most conservative (highest indicated G) display.

**3.19. Post Flight.** After flight, aircrews will:

3.19.1. Complete the AFTO 781-series forms and notify maintenance of discrepancies.

3.19.2. Never leave an aircraft unattended unless it is secured or hangared.

## Chapter 4

### OPERATING RESTRICTIONS

**4.1. Sailplane Equipment Exceptions.** All installed systems and equipment must be functional unless Table 4.1 lists an exception. The PIC will ensure any item considered essential to mission completion is fixed or corrected prior to flight. Pilots may consult squadron supervisors for additional guidance, if necessary.

**4.2. Waivers.** The OG commander may waive the requirements of this chapter for an operational necessity.

**Table 4.1. Sailplane Equipment Exceptions.**

<b>I T E M</b>	<b>A</b>	<b>B</b>
	<b>Equipment</b>	<b>Exceptionn</b>
<b>Avionics</b>		
<b>1</b>	G meter	May be inoperative for unoccupied seats.
<b>2</b>	ILEC repeater	May be inoperative for unoccupied rear seats.
<b>3</b>	Microphone	May be inoperative for unoccupied seats.
<b>4</b>	Push-to-talk switch	May be inoperative for unoccupied seats.
<b>5</b>	Variometer	ILEC variometer may be inoperative if a mechanical variometer is available.
<b>Airframe and Cabin</b>		
<b>6</b>	Canopy windows and vents	Panel air vents may be inoperative. Canopy sliding windows must function.
<b>7</b>	Seatbelts, shoulder harness, and release mechanism	May be inoperative for unoccupied seats, as long as they can be tied down or removed.

TOD D. WOLTERS, Lt Gen, USAF  
DCS, Operations

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-2, *Aircrew Operations*, 19 January 2012

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, 19 January 2012

AFI 11-2SAILPLANE, Volume 1, *Sailplane Aircrew Training*, 30 April 2015

AFI 11-202, Volume 3, *General Flight Rules*, 22 October 2010

AFI 11-209, *Aerial Event Policy and Procedures*, 4 May 2006

AFI 11-215, *USAF Flight Manuals Program (FMP)*, 22 December 2008 (Incorporating Change 1, 28 October 2010)

AFI 11-246, Volume 7, *Air Force Aircraft Demonstrations (Sailplanes)*, 18 May 2011

AFI 11-301, Volume 1, *Aircrew Flight Equipment (AFE) Program*, 25 February 2009

AFI 11-401, *Aviation Management*, 10 December 2010

AFI 13-204, Volume 3, *Airfield Operations Procedures and Programs*, 1 September 2010

AFMAN 33-363, *Management of Records*, 1 March 2008

TO 1G-10(T)-1, *Flight Manual--USAF Series, TG-10B/C/D Sailplane*, 15 November 2005

TO 1G-10(T)-1CL-1, *Pilots' Checklist--USAF Series TG-10B/C/D Sailplanes*, 15 November 2005

TO 1G-10(T)-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual, USAF Series TG-10B/C Aircraft*, 15 July 2007

TO 1G-15(T)-1, *Flight Manual--USAF Series TG-15 Aircraft*, 15 November 2005

TO 1G-15(T)-1CL-1, *Pilots' Abbreviated Flight Crew Checklist, USAF Series TG-15A/B Sailplanes*, 15 November 2005

TO 1G-15(T)-6CF-1, *Acceptance and Functional Check Flight Procedures Manual, USAF Series TG-15A/B Aircraft*, 1 October 2007

TO 1G-16(T)-1, *Flight Manual --USAF Series TG-16A Sailplane*, 1 January 2012

TO 1G-16(T)-1CL-1, *Pilots' Abbreviated Flight Crew Checklist, USAF Series TG-16A Sailplane*, 1 January 2012

TO 1G-16(T)-6CF-1, *Acceptance and/or Functional Check Flight Procedures Manual, USAF Series TG-16A Aircraft*, 1 January 2012

The Air Almanac, 2013

Aeronautical Information Manual (AIM), 9 February 2012

*Air Force Records Disposition Schedule*

(<https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>)



## Sailplane Assembly and Disassembly Checklists

### *Adopted Forms*

AF Form 847, Recommendation for Change of Publication

AFTO Form 781A, Maintenance Discrepancy and Work Document

AFTO Form 781F, Aerospace Vehicle Flight Report and Maintenance Document

AFTO Form 781H, Aerospace Vehicle Flight Status and Maintenance

### *Abbreviations and Acronyms*

**AFTO**—air force technical order

**AGL**—above ground level

**AIM**—aeronautical information manual

**ATC**—air traffic control

**DNIF**—duties not including flying

**FCF**—functional check flight

**FCIF**—flight crew information file

**FOD**—foreign object damage

**GPS**—global positioning system

**IAW**—in accordance with

**IP**—instructor pilot

**NAF**—numbered air force

**NM**—nautical mile

**NOTAM**—notices to Airmen

**NTA**—nontowered airfield

**PIC**—pilot in command

**PRICE**—pressure, regulator, indicator, connections, and emergency

**TO**—technical order

**VMC**—visual meteorological conditions

### *Terms*

**Aeronautical Information Manual**—the Federal Aviation Administration's official guide to basic flight information and ATC procedures available online at <https://www.faa.gov/ATpubs/AIM/index.htm>.

**Air Almanac**—issued annually, the almanac contains astronomical data for use in navigation. It is available from the Government Printing Office. A suitable calculator is available from the US Naval Observatory at <http://aa.usno.navy.mil/data/>.

**Critical phases of flight**—periods of time during takeoff, landings, and all emergency procedures.

**Cross-country**—flights outside of final glide distance from the departure or destination airfield.

**Day**—the period of time between the beginning of morning civil twilight and the end of evening civil twilight as defined in the Air Almanac. All sailplane flights must be performed within this period.

**Final glide distance**—the distance across the ground a sailplane is capable of gliding under the current conditions (airspeed, altitude, weight, wind, lift, sink, and bugs) not including water ballast. Final glide distance includes the distance used for any maneuvering required prior to landing.

**Home station**—an airfield where the aircrew usually operates from for day-to-day missions and aircraft maintenance is available. This includes deployed locations during a deployment.

**Night**—the time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the Air Almanac, converted to local time.

**Stereo flight plan**—a precoordinated flight plan that the pilot may file without the use of the DD Form 175, *Military Flight Plan*. Stereo flight plans and filing procedures must be coordinated with the local base operations function and all air traffic control facilities involved.

**Attachment 2****MISSION BRIEFING GUIDE****A2.1. Time Hack.****A2.2. Mission Data:**

- A2.2.1. Call sign and tail number.
- A2.2.2. Aircraft Commander.
- A2.2.3. Mission objectives.
- A2.2.4. Mission/syllabus requirements.
- A2.2.5. Weather and status (takeoff, en route, recovery, landing, alternates).
- A2.2.6. Flight plans and passenger manifests.
- A2.2.7. NOTAM review. (<https://www.notams.jcs.mil>)
- A2.2.8. Go/no-go (currencies, DNIF, FCIF, and read files).
- A2.2.9. Required publications.
- A2.2.10. Flight authorization and approval.

**A2.3. Takeoff, Aerotow, and Departure:**

- A2.3.1. Tow hookup.
- A2.3.2. Takeoff and abort procedures.
- A2.3.3. Departure direction and destination.
- A2.3.4. Release procedures and altitude.

**A2.4. Area Work:**

- A2.4.1. G-awareness exercise.
- A2.4.2. Maneuvers to accomplish/route.
- A2.4.3. Minimum maneuver and recovery altitudes.

**A2.5. Arrival:**

- A2.5.1. Traffic entry.
- A2.5.2. Pattern and landing.

**A2.6. Crew Resource Management:**

- A2.6.1. Clearing (areas of possible conflict).
- A2.6.2. Communications (checklists, radio procedures).
- A2.6.3. Transfer of aircraft control (with/without intercom).
- A2.6.4. Inflight checks.

**A2.7. Emergency Procedures:**

A2.7.1. Crew responsibilities.

A2.7.2. Ground egress.

A2.7.3. Rope breaks/unintentional release.

A2.7.4. Forced landing procedures.

A2.7.5. Bailout procedures.

A2.7.6. Physiological incidents (eyes, ears, sinus, air sickness).

**A2.8. Additional Items:**

A2.8.1. Special interest items.

A2.8.2. Operational risk management (score, risks, mitigation, approval).

A2.8.3. Weight and balance.

A2.8.4. Alternate mission.

A2.8.5. Debrief plan.

A2.8.6. Personal equipment (clothing, jewelry, and scarves removed).

A2.8.7. Electronic devices (cell phones, pagers, etc.).

**A2.9. Passenger Briefing, if required ([Attachment 3](#)).**

**A2.10. Questions.**

**Attachment 3**  
**PASSENGER BRIEFING GUIDE**

**A3.1. Mission Approval:**

- A3.1.1. Mission authorization.
- A3.1.2. Supervisor briefing (if required).
- A3.1.3. Medical clearance.

**A3.2. Additional Personal Considerations:**

- A3.2.1. Medical status, nutrition and hydration.
- A3.2.2. Personal belongings (cell phones off, glasses, rings, scarves, gloves, coat).
- A3.2.3. Flight duration.

**A3.3. Additional Ground Operations:**

- A3.3.1. Strap in.
- A3.3.2. Instruments.
- A3.3.3. Release knob location.
- A3.3.4. Canopy and window operation.
- A3.3.5. Radio operation and volume control.

**A3.4. Mission Restrictions.**